

**REMARKS**

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

**Claim and Specification:**

In the specification, paragraphs [0030], [0031], [0040], [0044], [0049], [0052], [0057], [0059], [0062], [0067], and [0071] have been amended based on the suggestions of the Examiner.

Claims 1, 23, 26, 42, and 43 have been amended. Claims 44-50 are added as new claims. Thus, claims 1-50 are presented for examination.

**35 U.S.C. 112 Rejections:**

Claims 23 and 26-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

With respect to claims 23 and 26-41, in view of the amendments, these rejections are respectfully traversed.

Claim 23 has been amended to recite "at least one of the plurality of implantable sensing element". Claim 26 has been amended to recite "a single site". Hence, all limitations in claims 23 and 26 have sufficient antecedent basis and are thus allowable under 35 U.S.C. 112, second paragraph. Claims 27-41 are dependent claims of claim 26, and are also fully compliant with 35 U.S.C. 112, second paragraph. In light of the amendments, it is submitted that claims 23 and 26-41 are allowable under 35 U.S.C. 112, second paragraph.

**Prior Art Rejections:**

Claims 1-4, 8-9, 11-12, 26, 30-31, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Gord et al. (U.S. Patent. No. 5,999,848). Claims 5-7, 10, 13-25, 28-29, 32, and 34-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gord et al.

With respect to claims 1-43, these rejections are respectfully traversed.

As amended, claim 1 recites:

“A method of sensing multiple parameters comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each sensing element is operable through electrical communication with an external controller via an individual interconnect; and

reading an output from at least one of the implantable sensing elements,

wherein a plurality of parameters are read from the implantable sensor at the single site, and

wherein the output read from at least one of the implantable sensing elements is a quantifiable value.”

Claim 1 is amended to recite the limitation that “each sensing element is operable through electrical communication with an external controller via an individual interconnect”. Support for this element can be found in paragraph [0037] of the specification and Figure 2. Paragraph [0037] states: “the plurality of sensors 32a-32e in Fig. 2 operate independently of one another and are individually wired”, and that “each of the plurality of sensors 32a-32e has a wire connected to it ... such that the interconnect 38 is actually a plurality of interconnects”. With individual wiring, each sensing element need not have individual “A/D integrated circuit and associated power supply”, which produce the advantage of having “a reduced size, making it

flexible and desirable for medical and/or surgical use.” (Paragraph [0037] of the present application.)

The element of individual wirings for each sensing element is neither taught by nor suggested by Gord. In Gord, all sensing elements are connected to each other via a “daisy chain”. (Gord, Figures 1, 2, and 4.) Using a “daisy chain” configuration, each sensing element in the Gord device is connected to a neighboring sensing element via two connectors. (Gord, Col. 3, lines 12-29.)

To anticipate a claim, the reference must teach all elements of the claim. Because Gord does not teach the element of individual connections as claimed in claim 1, it is submitted that claim 1 is patentable over Gord. Claim 26 has been amended to recite a similar limitation, and hence is patentable over Gord for at least the same reason. Claims 2-25 and claims 27-41 are dependent claims of claims 1 and 26, respectively, and therefore are allowable for at least the same reasons as stated above.

Claim 42 has been amended to recite the limitation of “wherein each of the plurality of implantable sensing elements comprises a power supply.” Support for this element is found in paragraph [0032] of the specification, stating “each of the plurality of sensors 12a-12e shown in the embodiment of Fig. 1 includes an analog-to-digital (A/D) converter integrated circuit as well as a power supply for powering the integrated circuit, such as, for example, a capacitor.” This enables the sensor to produce its output in a digital format. (See paragraph [0032] of the current application.)

The element of individual power supplies for the sensing elements is neither taught by nor suggested by Gord. Gord teaches that the “circuits facilitate the powering and operation of the implantable sensor/stimulator using just two conductors which are shared with all other sensors/stimulators in the daisy chain.” Hence, the device in Gord requires external power to be supplied via the “daisy chain” connectors, which teaches away from the use of individual power supplies for each of the implantable sensing elements. While Gord teaches the element of “a

power rectifier circuit” in each sensing element (Gord, Col. 4, lines 26-27), it does not teach the element of a power supply in each sensing element. Because the element of a power supply for each implantable sensing element is neither taught nor suggested by Gord, it is submitted that claim 42 is patentable over Gord.

Claim 43 is amended to recite the limitation of “wherein the plurality of implantable sensing elements comprises a lactate sensing element measuring a parameter for blood lactate level, a blood oxygen saturation sensing element measuring a parameter for blood oxygen level, and a pH level sensing element measuring a parameter for pH level.” This limitation is neither taught by nor suggested by Gord. In paragraph 7 of the office action, the examiner states that it is an obvious matter of engineering design choice to a person of ordinary skill in the art to modify the implantable sensing element in Gord to sense/evaluate biological and physiological parameters. However, as amended, claim 43 recites a specific combination of sensing elements measuring a combination of parameters that is not obvious to those skilled in the art. The combination of parameters in claim 43 are inter-related and are associated with the monitoring of specific conditions or the administration of specific treatments. (See paragraphs [0041]-[0064] of the present application.) For example, the combination of the blood oxygen saturation level, the lactate level, and the pH levels may be monitored together during the administration of defibrillation on a patient using an ICD, where the parameters are evaluated together to adjust the frequency and level of electric shock administered. (See paragraph [0054] of the present application.) Furthermore, a comparison of a change in the lactate level together with a change in the oxygen saturation level may be used to predict the occurrence of septic shock. (See paragraph [0055] of the present application.)

Gord does not teach the limitation recited in claim 43. Furthermore, Gord does not teach a motivation to derive at the combination of parameters as recited in 43. Hence, it is submitted the Gord reference does not anticipate claim 43, nor can Gord serve as evidence of a *prima facie* case of obviousness for claim 43. Therefore, claim 43 and its dependent claims 44-48 are deemed patentable.

**Conclusion:**

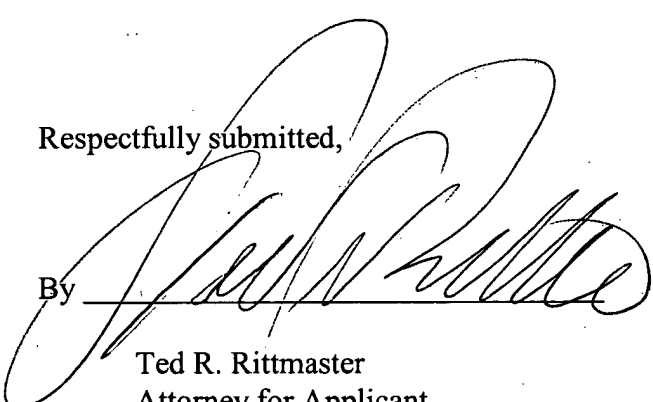
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

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